

CHAPTER V

SUMMARY

Part I Proximate composition

Proximate composition of farmed and wild sandworm *Perinereis nuntia* was not significantly different. But fatty acid profile in both groups of sandworm was significantly different; PUFA in farmed sandworm was higher than in wild sandworms whereas SFA and MUFA were in contrary. Moreover, mineral contents were significantly different in both groups of sandworm except potassium. The cholesterol and vitamin A were found to be higher in wild than in farmed sandworm while vitamins C, D3 and E were in contrary. However, amino acid profile and vitamin B1 in both groups of sandworm were not significantly different.

Part II Antimicrobial peptides

The AMPs from *Perinereis nuntia* were increased when they were challenged with *V. harveyi*. The crude extract of sandworm was against only Gram positive bacteria *B. subtilis*. However, the 100 fold concentration from gel-filtration fractions were against both Gram positive and Gram negative bacteria [*B. subtilis* (G+) > *V. harveyi* (G-) > *S. aureus* (G+) > *E. coli* (G-)] but found inactive against fungi *C. albicans*. Three AMPs; AMP-F5(P), AMP-F15(P) and AMP-F40(P) were isolated from sandworm and they were mixed peptides. Molecular weight of major peptide of AMP-F5(P), AMP-F15(P) and AMP-F40(P) were 2461.797, 8564.595 and 2459.779 Daltons respectively. Furthermore, only AMP-F5(P) showed activity against *B.*

subtilis after final step of purification and AMP-F5(P) was found to contain 0.26 μg from 1 g wet weight of fresh sandworm.

Future work suggestion

According to the AMP-F5(P) activity, synthetic peptide or recombinant protein of AMP-F5(P) should be studied. Thereafter, these peptides should be checked for antimicrobial activity against other microorganisms.